

International Paper Co.
19615 S. Susana Rd.
Compton, CA 90221
ID: 156851

EQUIPMENT DESCRIPTION

A/N 504689 (New Construction)

BOILER, CLEAVER-BROOKS, FIRETUBE-TYPE, MODEL CBLE-700-500, SERIAL NO. 0L094875, 20,000,000 BTU PER HOUR, NATURAL GAS-FIRED, WITH A LOW-NOX BURNER AND A 30 HP COMBUSTION BLOWER.

A/N 505611

TITLE V PERMIT REVISION

CONDITIONS

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
3. THIS EQUIPMENT SHALL BE FIRED ON NATURAL GAS ONLY.
[RULE 1303 (a)(1)-BACT]
4. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULE 1146.
[RULE 1146]
5. THIS BOILER SHALL EMIT NO MORE THAN 9 PPMV OF OXIDES OF NITROGEN (NO_x) CALCULATED AS NO₂ AND 100 PPMV OF CARBON MONOXIDE (CO), ALL MEASURED BY VOLUME ON A DRY BASIS AT 3% O₂.
[RULE 1303 (a)(1)-BACT]
6. THE OPERATOR OF THIS EQUIPMENT SHALL CONDUCT SOURCE TESTS UNDER THE FOLLOWING CONDITIONS TO DEMONSTRATE COMPLIANCE WITH THE PERMIT CONDITIONS:
 - A. THE SOURCE TESTS SHALL BE CONDUCTED NO LATER THAN 180 DAYS AFTER THE INITIAL START-UP OF THIS EQUIPMENT UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT.
 - B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO DISTRICT ENGINEER, TODD IWATA, NO LATER THAN 60 DAYS AFTER THE INITIAL START-UP OF THIS EQUIPMENT UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT. THE

TEST PROTOCOL SHALL BE APPROVED IN WRITING BY THE DISTRICT BEFORE THE TEST COMMENCES. THE TEST PROTOCOL SHALL INCLUDE THE COMPLETED DISTRICT FORMS ST-1 AND ST-2 SPECIFYING THE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, THE IDENTITY OF THE TESTING LABORATORY, A STATEMENT FROM THE TESTING LABORATORY CERTIFYING IT MEETS THE CRITERIA IN DISTRICT RULE 304(k) AND A DESCRIPTION OF THE SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.

- C. THE SOURCE TESTS SHALL CONSIST OF, BUT MAY NOT BE LIMITED TO, TESTING AT THE EXHAUST OF THE BOILER FOR:
- (1) OXIDES OF NITROGEN
 - (2) CARBON MONOXIDE
 - (3) OXYGEN CONTENT
 - (4) MOISTURE CONTENT
 - (5) FLOW RATE
 - (6) TEMPERATURE
- D. A WRITTEN NOTICE OF THE SOURCE TESTS SHALL BE SUBMITTED TO DISTRICT ENGINEER, TODD IWATA, AT LEAST 14 DAYS PRIOR TO THE SOURCE TESTING DATE SO THAT AN OBSERVER FROM THE DISTRICT MAY BE PRESENT.
- E. TWO COMPLETE COPIES OF THE SOURCE TEST REPORTS SHALL BE SUBMITTED TO DISTRICT ENGINEER, TODD IWATA, WITHIN 45 DAYS AFTER THE SOURCE TESTING DATE UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT. THE SOURCE TEST REPORT SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, ALL TESTING DATA REQUIRED BY THIS CONDITION.
- F. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD IN THE REQUIRED TEST METHODS FOR CRITERIA POLLUTANTS TO BE MEASURED, AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THE TEST.
- G. SAMPLING FACILITIES SHALL COMPLY WITH THE DISTRICT GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES, PURSUANT TO RULE 217.
- H. THE OPERATOR OF THIS EQUIPMENT SHALL SUBMIT THE RESULTS OF ALL PRELIMINARY TESTS THAT ARE CONDUCTED ON THIS EQUIPMENT FOR INFORMATIONAL PURPOSES TO DISTRICT ENGINEER, TODD IWATA, WITHIN 45 DAYS AFTER THE TESTING DATE UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT.

[RULE 1303 (a)(1)-BACT]

7. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THIS EQUIPMENT IS NOT COMPLETE WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.

[RULE 205]

BACKGROUND

International Paper Co. submitted application no. 504689 to permit a new boiler. The boiler will be operated alongside two existing boilers to generate steam for the manufacture of corrugated boxes. The boiler is fitted with a low-NOx burner that is designed to meet current BACT requirements of 9 ppmv NOx @ 3% O₂ and 100 ppmv CO @ 3% O₂. A source test will be required to determine actual NOx and CO concentrations.

International Paper Co. is currently operating in compliance with all applicable District rules and regulations. They were last inspected on 5/07/09. No NCs or NOVs have been issued to this facility. No public nuisance complaints have been filed against this facility.

International Paper Co. is a Title V facility. A Title V permit was issued to this facility on February 5, 2007. International Paper Co. has proposed to revise their Title V permit with application no. 505611 by adding a boiler. The proposed project is considered as a “de minimis significant permit revision” to their Title V permit, as described in Regulation XXX evaluation.

PROCESS DESCRIPTION

International Paper Co. manufactures corrugated sheets for the construction of cardboard boxes used for consumer packaging. They manufacture a variety of boxes ranging from food boxes to dry goods boxes. Some boxes are printed with designs using flexographic printing presses. The facility operates up to 24 hr/day, 7 day/wk and 52 wk/yr.

EMISSION ESTIMATES

NOx and CO emission estimates are based on 9 ppmv and 100 ppmv, respectively. ROG, PM10 and SOx emissions are based on AER default emission factors.

Heat input: 20,000,000 Btu/hr

Gross heating value: 1,050 Btu/scf

Max daily gas usage = 20,000,000 Btu/hr x 1 scf/1,050 Btu = 19,048 scf/hr

NOx emission factor = 11.52 lb/mmscf (9 ppmv)

CO emission factor = 128 lb/mmscf (100 ppmv)

ROG emission factor = 5.5 lb/mmscf

PM10 emission factor = 7.6 lb/mmscf

SOx emission factor = 0.6 lb/mmscf

Hourly NOx emissions = 11.52 lb/1x10⁶ scf x 19,048 scf/hr = 0.22 lb/hr

Daily NOx emissions = 0.22 lb/hr x 24 hr/day = 5.28 lb/day

Hourly CO emissions = 128 lb/1x10⁶ scf x 19,048 scf/hr = 2.43 lb/hr

Daily CO emissions = $2.43 \text{ lb/hr} \times 24 \text{ hr/day} = 58.32 \text{ lb/day}$

Hourly ROG emissions = $5.5 \text{ lb}/1 \times 10^6 \text{ scf} \times 19,048 \text{ scf/hr} = 0.10 \text{ lb/hr}$

Daily ROG emissions = $0.10 \text{ lb/hr} \times 24 \text{ hr/day} = 2.4 \text{ lb/day}$

Hourly PM10 emissions = $7.6 \text{ lb}/1 \times 10^6 \text{ scf} \times 19,048 \text{ scf/hr} = 0.14 \text{ lb/hr}$

Daily PM10 emissions = $0.14 \text{ lb/hr} \times 24 \text{ hr/day} = 3.36 \text{ lb/day}$

Hourly SOx emissions = $0.6 \text{ lb}/1 \times 10^6 \text{ scf} \times 19,048 \text{ scf/hr} = 0.01 \text{ lb/hr}$

Daily SOx emissions = $0.01 \text{ lb/hr} \times 24 \text{ hr/day} = 0.24 \text{ lb/day}$

Emissions Summary:

NOx (lb/day)	CO (lb/day)	ROG (lb/day)	PM10 (lb/day)	SOx (lb/day)
5.3	58.3	2.4	3.4	0.2

RISK ASSESSMENT

The combustion of natural gas results in toxic air contaminant emissions. A Tier 2 Rule 1401 Risk Assessment was performed to determine the health risk from operating the boiler. The assessment indicates a potential cancer risk of 0.13 and 0.08 in a million at the residential and commercial receptors, respectively. The potential acute and chronic health hazard risks are both well below one. Risk assessment spreadsheets are included in the application no 504689.

RULE ANALYSIS

RULE 212 (c)(1): A public notice is not required for this project since the emission source is not located within 1,000 feet from the outer boundary of a school. The closest school, Long Beach Unified School, located to the emission source is 0.55 miles away.

RULE 212 (c)(2) & 212(g): A public notice is not required for this project since the emissions increase does not exceed any of the daily maximums as specified in Rule 212(g).

	Maximum Daily Emissions (lb/day)					
	ROG	NO_x	PM₁₀	SO₂	CO	Pb
Emission increase	2.4	5.3	3.4	0.2	58.3	0
Max Limit	30	40	30	60	220	3
Compliance Status	Yes	Yes	Yes	Yes	Yes	Yes

RULE 212(c)(3): A public notice is not required for this project since there will not be an increase in emissions of toxic air contaminants listed in Table I of Rule 1401 that will result in

a cancer risk equal or greater than one in a million.

RULES 401 & 402: AQMD database has no records of visible emissions or nuisance complaints against this facility. Compliance with these requirements is expected with the proper operation of the equipment.

RULE 1146(c)(1)(A): All three boilers operated at this facility operate at or below the NO_x concentration limit of 30 ppmv @ 3% O₂. This particular boiler is equipped with a low-NO_x burner that is designed to emit NO_x at 9 ppmv @ 3% O₂. A source test will determine actual emissions. Compliance is expected.

RULE 1146(c)(4): The boiler will not discharge CO emissions greater than 400 ppmv. The boiler was designed to operate at 100 ppmv CO @ 3% O₂. A source test will determine actual emissions. Compliance is expected.

RULE 1303(a): The boiler is expected to comply with the BACT requirements of 9 ppmv NO_x @ 3% O₂ and 100 ppmv CO @ 3% O₂. A source test will determine actual emissions.

RULE 1303(b)(1): The boiler will be operated in compliance with the limits set forth in this rule.

	NO_x (lb/hr)	CO (lb/hr)	PM10 (lb/hr)
Estimated Emissions	0.22	2.43	0.14
Limit	1.26	69.3	7.6

RULE 1303(b)(2): ROG emission offsets may be required since International Paper's current facility potential to emit is greater than 4 ton/yr. The amount to be offset will depend on the source test.

RULE 1303(b)(4): The facility is expected to be in full compliance with all applicable rules and regulations of the District.

RULE 1401: There will not be a cancer risk equal or greater than one in a million or an acute or chronic health risk from the intended operation of the boiler. See above RISK ASSESSMENT section for details. Compliance is expected.

REGULATION XXX:

The proposed project is considered as a "de minimis significant permit revision" to the Title V permit issued to this facility. Rule 3000(b)(6) defines a "de minimis significant permit revision" as any Title V permit revision where the cumulative emission increases on non-RECLAIM pollutants or hazardous air pollutants (HAP) from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

Engineering and Compliance

Appl. no. Below

Processed by Todd Iwata

Checked by

Date 1.22.2010

APPLICATION PROCESSING AND CALCULATION

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NO _x	40
PM ₁₀	30
SO _x	60
CO	220

Rule 3003(j) specifies that a proposed permit for the initial Title V permit shall be submitted to EPA for review. To determine if a project qualifies for a “de minimis significant permit revision”, emission increases resulting from all permit revisions shall be accumulated and compared to the above threshold levels. The initial Title V permit was issued to this facility on January 28, 2009. This is the first permit revision since the initial permit was issued. The cumulative emission increases resulting from this proposed permit revision are summarized as follows:

Revision	HAP	VOC	NO _x	PM ₁₀	SO _x	CO
1 st Permit Revision; Add boiler	0	2.4	5.3	3.4	0.2	58.3
Maximum Daily	30	30	40	30	60	220

RECOMMENDATION

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “de minimis significant permit revision”, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not raise any objections within the review period, a revised Title V permit will be issued to this facility.